



IFW 3745

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

U.S. Serial No.: 10/569,332)
Applicant: Hiroshi Uchida; Saitama et al.)
Filed: February 21, 2006)
Title: Valve Device)

Examiner: N/A
Group Art Unit: 3745
Docket No.: 7176.3017.001

TRANSMITTAL LETTER

Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

Dear Sir:

Enclosed are the following items to be filed with the above-identified application:

1. Notification Concerning Transmittal of Copy of International Preliminary Report on Patentability;
2. The International Preliminary Report on Patentability; and
3. The Translation of the Written Opinion of the International Searching Authority.

The patents mentioned in the Written Opinion were sent with an earlier IDS filed February 21, 2006.

The Commissioner is hereby authorized and respectfully requested to charge any deficiencies or credit any overpayments to our Deposit Account No. 50-0852. A duplicate copy of this sheet is enclosed.

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail with sufficient postage in an envelope addressed to the Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450, on **September 11, 2006**.

Nelle Schultz
Nelle Schultz

Respectfully submitted,

REISING, ETHINGTON,
BARNES, KISSELLE, P.C.

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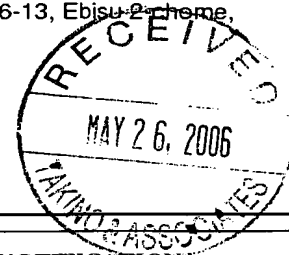
From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF TRANSMITTAL
OF COPIES OF TRANSLATION
OF THE INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY
(CHAPTER I OR CHAPTER II
OF THE PATENT COOPERATION TREATY)
(PCT Rules 44bis.3(c) and 72.2)

To:

TAKINO, Hideo
4th Floor, Hiroo SK bldg., 36-13, Ebisu-2-chome,
Shibuya-ku, Tokyo
1500013
JAPON



Date of mailing (day/month/year) 18 May 2006 (18.05.2006)	
Applicant's or agent's file reference P86747	IMPORTANT NOTIFICATION
International application No. PCT/JP2004/010628	International filing date (day/month/year) 26 July 2004 (26.07.2004)
Applicant KABUSHIKI KAISHA SAGINOMIYA SEISAKUSHO et al	

1. Transmittal of the translation to the applicant.



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter I).



The International Bureau transmits herewith a copy of the English translation of the international preliminary report on patentability (Chapter II).

2. Transmittal of the copy of the translation to the designated or elected Offices.

The International Bureau notifies the applicant that copies of that translation have been transmitted to the following designated or elected Offices requiring such translation:

None

The following designated or elected Offices, having waived the requirement for such a transmittal at this time, will receive copies of that translation from the International Bureau only upon their request:

AE, AG, AL, AM, AP, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EA, EC, EE, EG, EP, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OA, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

3. Reminder regarding translation into (one of) the official language(s) of the elected Office(s).

The applicant is reminded that, where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary report on patentability (Chapter II).

It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned within the applicable time limit (Rule 74.1). See Volume II of the PCT Applicant's Guide for further details.

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Authorized officer

Yoshiko Kuwahara

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter I of the Patent Cooperation Treaty)

(PCT Rule 44bis)

Applicant's or agent's file reference P86747	FOR FURTHER ACTION	See item 4 below
International application No. PCT/JP2004/010628	International filing date (<i>day/month/year</i>) 26 July 2004 (26.07.2004)	Priority date (<i>day/month/year</i>) 26 August 2003 (26.08.2003)
International Patent Classification (8th edition unless older edition indicated) See relevant information in Form PCT/ISA/237		
Applicant KABUSHIKI KAISHA SAGINOMIYA SEISAKUSHO		

1.	This international preliminary report on patentability (Chapter I) is issued by the International Bureau on behalf of the International Searching Authority under Rule 44 bis.1(a).																								
2.	This REPORT consists of a total of 5 sheets, including this cover sheet.																								
	In the attached sheets, any reference to the written opinion of the International Searching Authority should be read as a reference to the international preliminary report on patentability (Chapter I) instead.																								
3.	<p>This report contains indications relating to the following items:</p> <table style="width: 100%;"> <tr> <td style="width: 10%; text-align: center;"><input checked="" type="checkbox"/></td> <td style="width: 30%;">Box No. I</td> <td style="width: 60%;">Basis of the report</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. II</td> <td>Priority</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. III</td> <td>Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. IV</td> <td>Lack of unity of invention</td> </tr> <tr> <td style="text-align: center;"><input checked="" type="checkbox"/></td> <td>Box No. V</td> <td>Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VI</td> <td>Certain documents cited</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VII</td> <td>Certain defects in the international application</td> </tr> <tr> <td style="text-align: center;"><input type="checkbox"/></td> <td>Box No. VIII</td> <td>Certain observations on the international application</td> </tr> </table>	<input checked="" type="checkbox"/>	Box No. I	Basis of the report	<input type="checkbox"/>	Box No. II	Priority	<input type="checkbox"/>	Box No. III	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	<input type="checkbox"/>	Box No. IV	Lack of unity of invention	<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	<input type="checkbox"/>	Box No. VI	Certain documents cited	<input type="checkbox"/>	Box No. VII	Certain defects in the international application	<input type="checkbox"/>	Box No. VIII	Certain observations on the international application
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<input checked="" type="checkbox"/>	Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement																							
<input type="checkbox"/>	Box No. VI	Certain documents cited																							
<input type="checkbox"/>	Box No. VII	Certain defects in the international application																							
<input type="checkbox"/>	Box No. VIII	Certain observations on the international application																							
4.	The International Bureau will communicate this report to designated Offices in accordance with Rules 44bis.3(c) and 93bis.1 but not, except where the applicant makes an express request under Article 23(2), before the expiration of 30 months from the priority date (Rule 44bis .2).																								

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Date of issuance of this report 08 May 2006 (08.05.2006)
Facsimile No. +41 22 740 14 35	Authorized officer <div style="text-align: center; font-weight: bold;">Yoshiko Kuwahara</div>
Telephone No. +41 22 338 90 90	

PATENT COOPERATION TREATY

TRANSLATION

From the
INTERNATIONAL SEARCHING AUTHORITY

PCT

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

(PCT Rule 43bis.1)

To:

Date of mailing
(day/month/year)

Applicant's or agent's file reference

P86747

FOR FURTHER ACTION

See paragraph 2 below

International application No.

PCT/JP2004/010628

International filing date (day/month/year)

26.07.2004

Priority date (day/month/year)

26.08.2003

International Patent Classification (IPC) or both national classification and IPC

Applicant

KABUSHIKI KAISHA SAGINOMIYA SEISAKUSHO

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

2. **FURTHER ACTION**

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options, see Form PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

Name and mailing address of the ISA/JP

Authorized officer

Facsimile No.

Telephone No.

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/010628

Box No. I Basis of this opinion

1. With regard to the language, this opinion has been established on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This opinion has been established on the basis of a translation from the original language into the following language _____, which is the language of a translation furnished for the purposes of international search (under Rule 12.3 and 23.1(b)).

2. With regard to any nucleotide and/or amino acid sequence disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. type of material

☐ a sequence listing

☐ table(s) related to the sequence listing

b. format of material

☐ in written format

☐ in computer readable form

c. time of filing/furnishing

☐ contained in the international application as filed.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority for the purposes of search.

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY**

International application No.

PCT/JP2004/010628

Box No. V Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	<u>2, 3</u>	YES
	Claims	<u>1</u>	NO
Inventive step (IS)	Claims	<u></u>	YES
	Claims	<u>1-3</u>	NO
Industrial applicability (IA)	Claims	<u>1-3</u>	YES
	Claims	<u></u>	NO

2. Citations and explanations:

[List of Documents]

Document 1: JP, 11-294618, A (Fujikoki Corporation), 29 October, 1999 (29.10.99), full text, Figs. 1-6

Document 2: JP, 5-503754, A (Allied Signal Incorporated), 17 June, 1993 (17.06.93), full text, Figs. 1-4

Document 3: JP, 5-61508, A (Saginomiya Seisakusho, Inc.), 6 September, 1993 (06.09.93), full text, Figs. 1-3

Document 4: JP, 2001-182873, A (CKD Corporation), 6 July, 2001 (06.07.01), full text, Figs. 1-18

Document 5: GB, 525491, A (Karl Baumann), 29 August, 1940 (29.08.40), full text, Fig. 1

[Claim 1]

Document 1 discloses a valve device (an electric flow control valve) in which the outer surface of the valve housing (30) has openings that are, namely, an inlet-side piping connection port (30a1) and an outlet-side piping connection port (30b1). A valve port (see the drawings) is formed inside the valve housing. Provided inside the valve housing are valve elements (33, 31) that make the valve port open and close by movements along the axis line direction. The valve elements have, on one side thereof, a valve stem (31) that is supported by the valve housing in such a manner that the valve stem is slidable along the axis line direction. The valve stem is connected to driving units (20, 23) that drive the valve elements to open and close. One side of the valve port is connected, in such a manner that communication is allowed, to the inlet-side piping connection port (30a1) through an inlet-side inner passage (see Fig. 1) formed in the valve housing. The other side of the valve port is connected, in such a manner that communication is allowed, to the outlet-side piping connection port (30b1) through an outlet-side inner passage (see the drawings) formed in the valve housing. The inlet-side inner passage has a bent part (the bent part of the valve chest 30c) within the valve housing (30) so that the pressure of the inlet-side piping connection port acts on the valve stem (31) side of the valve elements (33, 31).

Accordingly, the subject matter of claim 1 does not appear to involve an inventive step.

[Claim 2]

Document 2 discloses a valve device (a double poppet valve) in which the outer surface of the valve housing (22) has openings that are, namely, an inlet-side port (24) and an outlet-side port (26). A first valve port (30) and a second valve port (32) are formed inside the valve housing on the same axis line so as to be apart from each other in the axis line direction. Provided inside the valve housing is a valve element (38) that includes, integrally, a first valve unit (60) that makes the first valve port (30) open and close by movements along the axis line direction and a second valve unit (76) that makes the second valve port (32) open and close. A valve stem (16) that is supported by the valve housing in such a manner that the valve stem is slidable in the axis line direction is

WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING AUTHORITY

International application No.

PCT/JP2004/010628

Box No. V

Reasoned statement under Rule 43bis.1(a)(i) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement

provided on one side of the valve element. The valve stem is connected to a driving means (the "actuator", which is not shown in the drawing) that drives the valve element to open and close. One side of each of the first valve port and the second valve port is connected, in such a manner that communication is allowed, to the inlet-side port (24) through an inlet-side inner passage (inside 24) that is formed in the valve housing. The other side of each of the first valve port (30) and the second valve port (32) is connected, in such a manner that communication is allowed, to the outlet-side port (26) through an outlet-side inner passage (inside 54, 26) that is formed in the valve housing and the valve element (38). The inlet-side inner passage is configured so that the pressure of the inlet-side port (24) acts between the first valve unit (60) and the second valve unit (76) that are included in the valve element (38).

Document 3 discloses a valve device of a bi-directional type (an electric control valve) in which the outer surface of the valve housing (1) has openings that are, namely, an inlet-side piping connection port (1b) and an outlet-side piping connection port (1a).

Document 4 discloses a valve device in which the inner passage (22-20-21) in a valve main body (12) includes a desired bent part (see the drawings).

It would have been obvious to a person skilled in the art to apply the piping connection ports (1a, 1b) disclosed in document 3 to the valve device (the double poppet valve) disclosed in document 2.

Further, it is considered to be a matter of design variation for a person skilled in the art to have an arrangement in which the inlet-side inner passage (inside the inlet 24) disclosed in document 2 is shaped so as to include the bent part (20) disclosed in document 4.

Accordingly, the subject matter of claim 2 does not appear to involve an inventive step.

[Claim 3]

Document 5 discloses a valve device in which a first valve port (6) and a second valve port (5) are formed inside a valve housing (4, 1) on the same axis line so as to be apart from each other in the axis line direction. Provided inside the valve housing (4, 1) is a valve element (9) that includes, integrally, a first valve unit (13) that makes the first valve port (6) open and close by movements along the axis line direction and a second valve unit (12) that makes the second valve port (5) open and close. A valve stem (7) that is supported by the valve housing (1, 4) in such a manner that the valve stem is slidable in the axis line direction is provided on one side of the valve element. The valve device includes a bypass passage (17) so that the pressure of the inlet-side port (2) acts between the first valve unit (13) and the second valve unit (12) that are included in the valve element (9).

Document 3 discloses a valve device in which the outer surface of the valve housing (1) has openings that are, namely, an inlet-side piping connection port (1b) and an outlet-side piping connection port (1a). The valve stem (3a) is connected to a driving unit (9) that drives a valve element (3) to open and close. One side of each of a first valve port (2a) and a second valve port (1c) is connected, in such a manner that communication is allowed, to the inlet-side piping connection port (1b) through an inlet-side inner passage (1d) that is formed in the valve housing. The other side of each of the first valve port and the second valve port is connected, in such a manner that communication is allowed, to the outlet-side piping connection port (1a) through an outlet-side inner passage (see the drawings) that is formed in the valve housing (1) and the valve element (3).

It would have been obvious to a person skilled in the art to apply the inlet-side piping connection port (1b), the outlet-side piping connection port (1a), the driving unit (9), and the like disclosed in document 3 to the valve housing (1, 4) included in the valve device disclosed in document 5 so as to arrive at the subject matter of claim 3.